

**Notice of Allowability**

**Application No.**

10/764,010

**Examiner**

Jonathan G. Cwern

**Applicant(s)**

ALEXANDER ET AL.

**Art Unit**

3737

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1.  This communication is responsive to the amendment filed on 11/17/10.
- 2.  The allowed claim(s) is/are 1,7,10,15,18-22,55-61,66-71,85,86,94-126,128-142,144-149,153,190 and 228-256.
- 3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All   b)  Some\*   c)  None   of the:
    - 1.  Certified copies of the priority documents have been received.
    - 2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_ .
    - 3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

- 4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  - 5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
    - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
- 6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- 1.  Notice of References Cited (PTO-892)
- 2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3.  Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
- 4.  Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 5.  Notice of Informal Patent Application
- 6.  Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_ .
- 7.  Examiner's Amendment/Comment
- 8.  Examiner's Statement of Reasons for Allowance
- 9.  Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Kathryn Noll on 11/24/10.

The application has been amended as follows:

1. (Currently Amended) A method of creating an implant for treating joint disease, which method comprises:

obtaining from image data of a damaged or diseased joint information about the three-dimensional geometry of the joint, including at least one of normal articular cartilage, and/or diseased articular cartilage, and subchondral bone;

creating a three-dimensional electronic model of at least a portion of the joint including at least one of normal articular cartilage, and/or diseased articular cartilage, and subchondral bone, wherein the model includes a geometry of at least a portion of an articular surface of the joint; and

creating an implant based on the three-dimensional model, wherein at least a portion of said implant has an outer articular surface derived from the geometry of at least a portion of the articular surface of the joint.

10. (Currently Amended) A method of creating an implant for treating joint disease, which method comprises:

obtaining from image data of a damaged or diseased joint information about the three-dimensional geometry of the joint, wherein the information includes information on ~~the~~ a thickness of normal articular cartilage, ~~including normal cartilage;~~

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creating a three-dimensional electronic model of at least a portion of the joint wherein the model includes a geometry of at least a portion of an articular surface of the joint; and

~~creating, based at least in part on the model,~~ an implant having an outer articular surface, the implant based at least in part on the geometry of the model and a thickness derived at least in part based on the thickness of the normal articular cartilage.

85. (Currently Amended) The method of claim 10, wherein the implant is configured to repair an area encompassing at least a portion of ~~said~~ diseased articular cartilage.

94. (Currently Amended) The method of claim 1, wherein ~~said derived information~~ the three-dimensional electronic model of at least a portion of the joint includes information ~~on~~ the normal articular cartilage and the diseased articular cartilage in at least one portion of the joint.

95. (Currently Amended) The method of claim 1, wherein ~~said derived information~~ the three-dimensional electronic model of at least a portion of the joint includes information ~~on~~ the normal articular cartilage adjacent to the diseased articular cartilage in at least one portion of the joint.

96. (Currently Amended) The method of claim 1, wherein the step of creating an implant further includes creating a thickness of a portion of said implant ~~is~~ substantially similar to a thickness of said normal articular cartilage in at least one portion of the joint.

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106. (Currently Amended) The method of claim 10, wherein ~~said derived information~~ the three-dimensional electronic model of at least a portion of the joint includes ~~information~~ on normal and diseased articular cartilage in at least one portion of the joint.

107. (Currently Amended) The method of claim 10, wherein ~~said derived information~~ the three-dimensional electronic model of at least a portion of the joint includes ~~information~~ on normal articular cartilage adjacent to diseased articular cartilage in at least one portion of the joint.

108. (Currently Amended) The method of claim 10, wherein the step of creating an implant further comprises creating a thickness of a portion of said implant ~~is~~ substantially similar to a thickness of said normal articular cartilage in at least one portion of the joint.

109. (Currently Amended) The method of claim 10, wherein the step of creating an implant further comprises creating a thickness of a portion of said implant that is fixed and the fixed thickness is substantially similar to a thickness of said normal articular cartilage in at least one portion of the joint.

110. (Currently Amended) The method of claim 10, wherein the step of creating an implant further comprises creating a thickness of a portion of said implant ~~is~~ substantially similar to a thickness of said normal articular cartilage adjacent to diseased articular cartilage in at least one portion of the joint.

150. (Cancelled)

151. (Cancelled)

152. (Cancelled)

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153. (Currently Amended) A method of forming a physical model for repairing a joint which method comprises:

obtaining from image data of a damaged or diseased joint information about the three-dimensional geometry of subchondral bone of the joint;

creating a three-dimensional electronic model of the geometry of at least a portion of the joint, including at least a portion of the subchondral bone; and

~~forming, based at least in part on the model,~~ a physical model having an outer articular surface based at least in part on the geometry of the subchondral bone of the three-dimensional electronic model ~~shaped in at least a portion based on a curvature of the subchondral bone.~~

190. (Currently Amended) A method of creating a device for treating an articular joint, which method comprises:

deriving from image data of a damaged or diseased joint a geometry of at least a portion of a surface of subchondral bone of the joint;

creating a three-dimensional electronic model of the geometry of at least a portion of the joint including the at least a portion of the subchondral bone surface; and

~~creating, based at least in part on the model,~~ a physical model ~~of at least a portion of the joint, wherein the model has~~ having an outer articular surface configured ~~as an articular surface and having~~ from at least a portion ~~configured from~~ of the three-dimensional electronic model of the geometry of the surface of the subchondral bone.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Cwern whose telephone number is (571)270-1560. The examiner can normally be reached on Monday through Friday 9:30AM - 6:00PM EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jonathan G Cwern/  
Examiner, Art Unit 3737

/BRIAN CASLER/  
Supervisory Patent Examiner, Art  
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